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DINOSAURS!

• DISCOVER THE GIANTS OF THE PREHISTORIC WORLD •

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DINOSAURS!

• DISCOVER THE GIANTS OF THE PREHISTORIC WORLD •

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ARCHAEORNITHOMIMUS

Imagine a featherless ostrich with a long bony tail and clawed arms and you will have some idea of what *Archaeornithomimus* looked like.

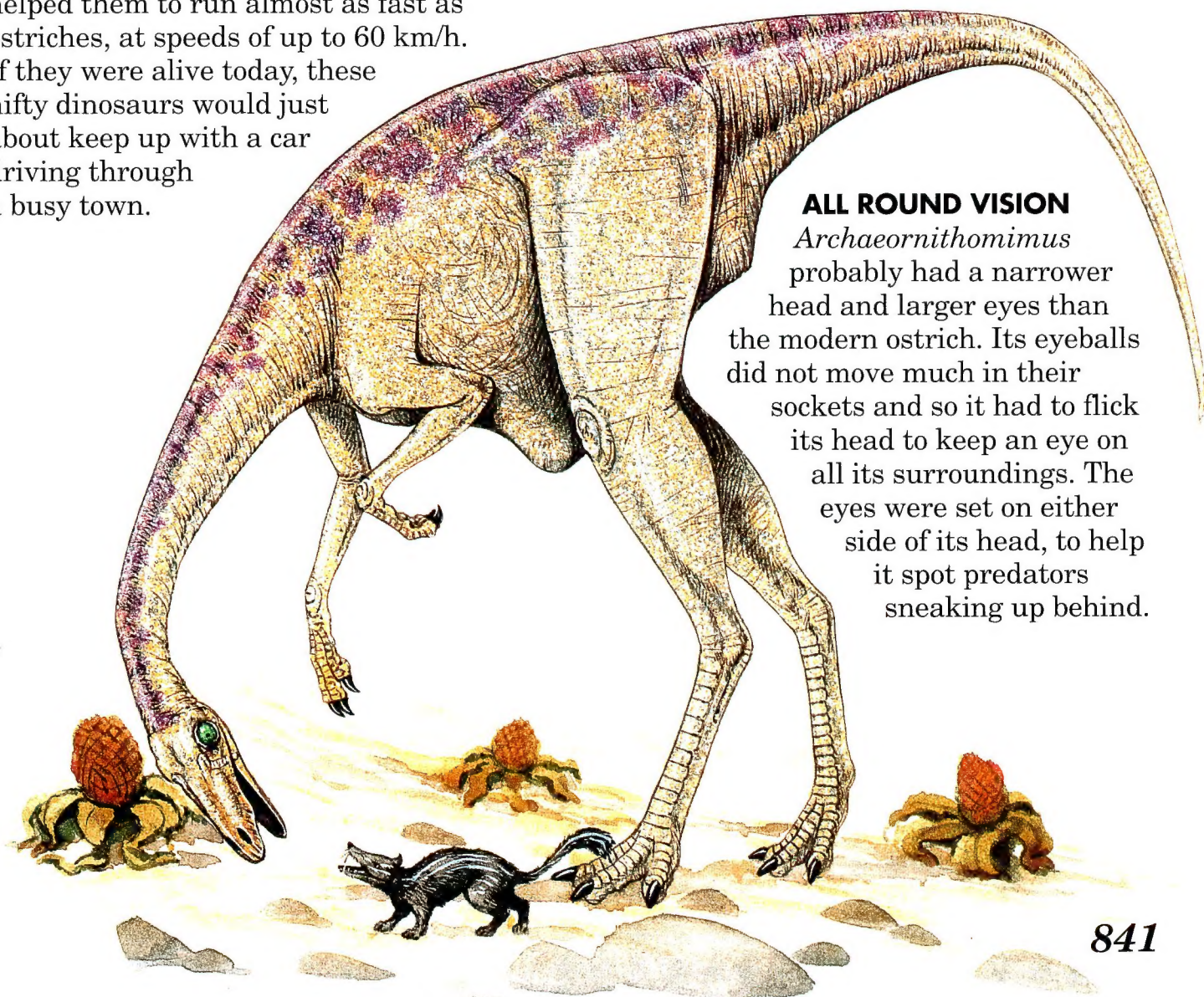
Archaeornithomimus was probably an early member of a group of dinosaurs known as the ornithomimosaurs. In some ways these ostrich dinosaurs were like the flightless ostriches of today. The most striking similarity is their long, slender legs which helped them to run almost as fast as ostriches, at speeds of up to 60 km/h. If they were alive today, these nifty dinosaurs would just about keep up with a car driving through a busy town.

FEW FOSSILS

Not many *Archaeornithomimus* fossils have been found. Its bones were fragile and its slender jawbones were especially weak. Many fossils have been discovered near the sea. Amongst them are parts of its hand, including some claws, and also foot and back bones. Experts now think that *Archaeornithomimus* shared many of the features of ornithomimosaurs like *Struthiomimus* and *Gallimimus*, although it lived about 30 million years before them.

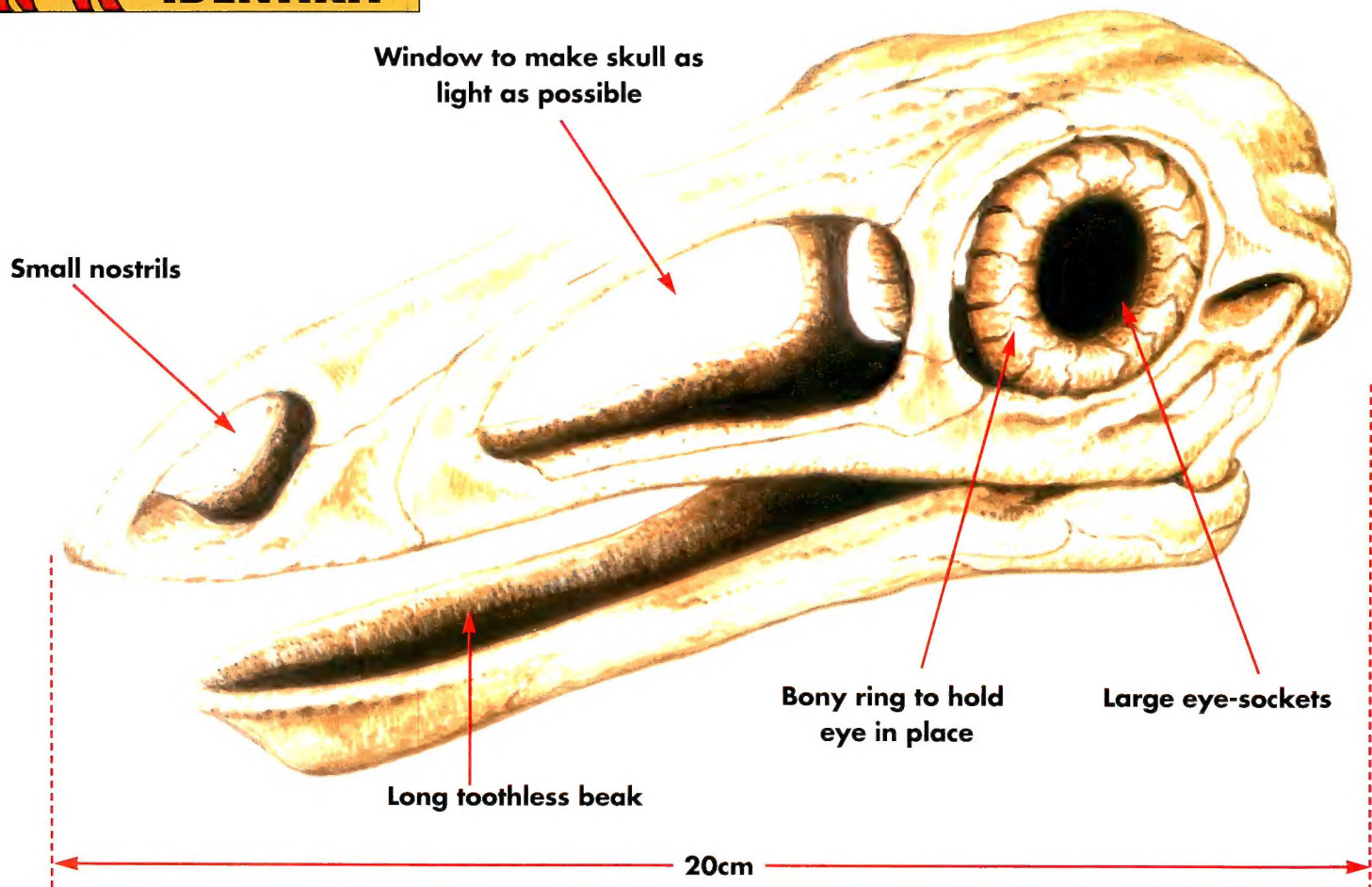
ALL ROUND VISION

Archaeornithomimus probably had a narrower head and larger eyes than the modern ostrich. Its eyeballs did not move much in their sockets and so it had to flick its head to keep an eye on all its surroundings. The eyes were set on either side of its head, to help it spot predators sneaking up behind.



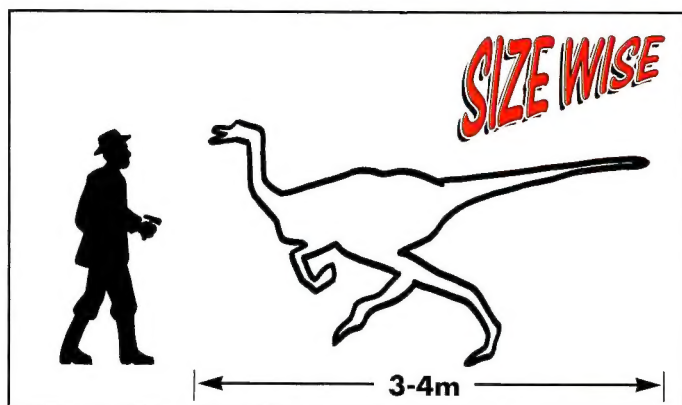


IDENTIKIT



MONSTER FACTS

- **NAME:** *Archaeornithomimus* (ar-kee-or-ni-tho-mime-us) means 'ancient bird mimic'
- **SIZE:** about 3-4m long
- **FOOD:** plants, lizards, small mammals
- **LIVED:** about 110 million years ago in the Mid Cretaceous Period in north China and eastern North America



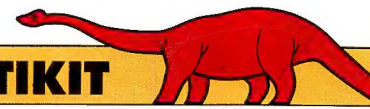
Archaeornithomimus' skull shows how the dinosaur must have looked similar to an ostrich.

WELL BALANCED

Archaeornithomimus needed to keep its balance as it fled from carnivores. The claws on the end of its narrow feet gripped the ground to stop it slipping over. Its neck and body were balanced by a long tail which it held out stiffly as it sprinted.

BRANCH HOOK

Ostrich dinosaurs used their arms to help them feed. They probably reached out and grasped over-hanging branches with their clawed, three-fingered hands and drew them to their toothless beaks.



Is it true

that ostrich dinosaurs waded along seashores?

Many fossils of ostrich dinosaurs have been found by the sea. One scientist suggested that they may have been waders and fed on shrimps and crabs. Nowadays most scientists think that this is unlikely to be true. Ostrich dinosaurs have more in common with the large ground-dwelling birds of today than with long-beaked wading birds such as the curlew.

LIGHT-HEADED

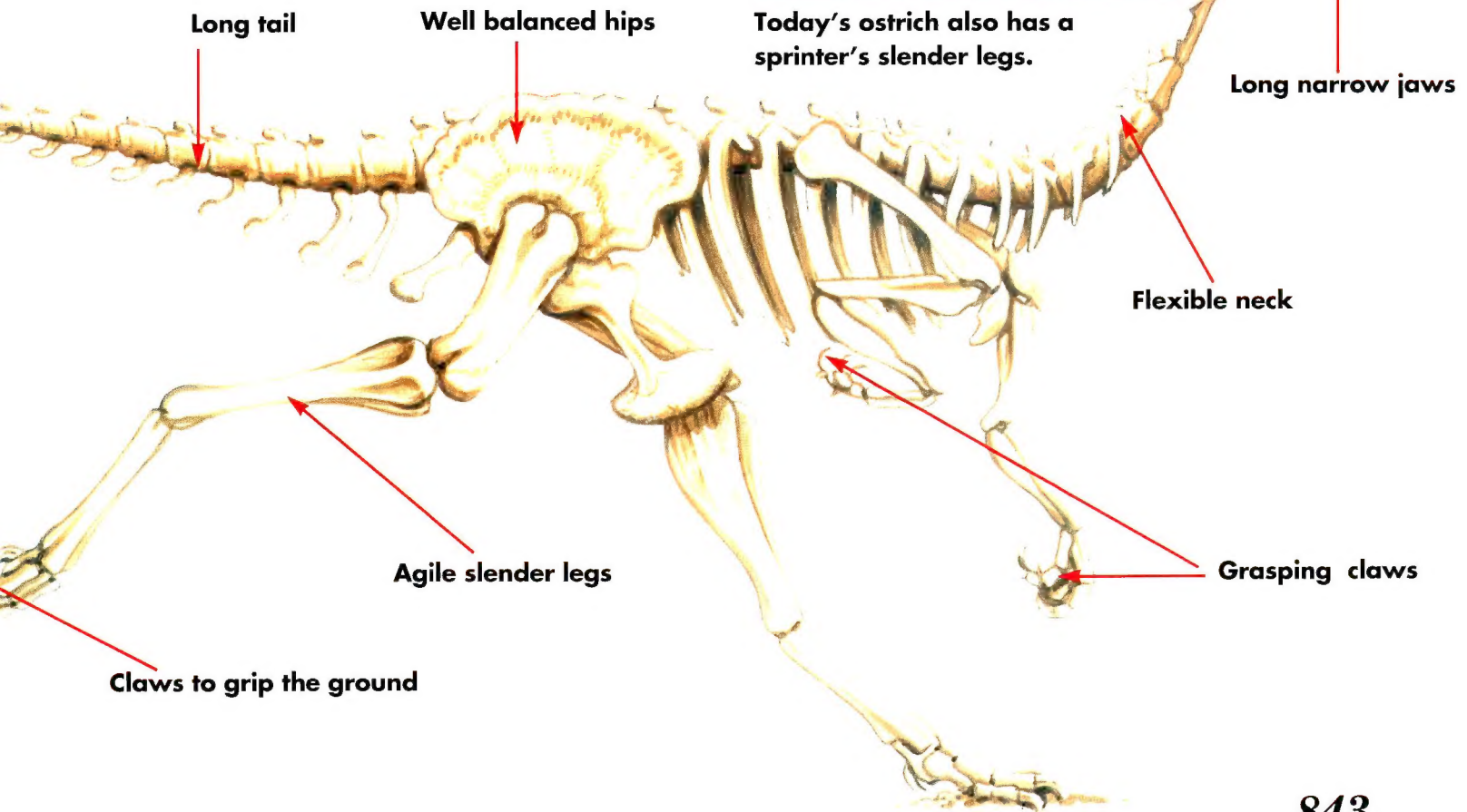
Archaeornithomimus had a light skull which was easy to move. Its long, narrow jaw was probably covered with horn for strength and extra biting power. Like a budgerigar or parrot, *Archaeornithomimus* may have been able to tilt its upper beak up and down at the same time as it moved its lower beak. Such flexibility made it easy for the dinosaur to chew quite delicately.

MOVABLE FEASTS

Archaeornithomimus may have enjoyed eating all sorts of things, from little lizards to juicy berries. With its flexible neck and small head, it was able to poke about in the undergrowth for tempting shoots. *Archaeornithomimus* was an athletic sort of dinosaur and probably chased small, fast-moving mammals. It used its sharp senses to spot insects and snatch them as they flew through the air.



Today's ostrich also has a sprinter's slender legs.





MINMI

The discovery of *Minmi* in 1964 was very exciting as it was the first armoured dinosaur found in Australia.



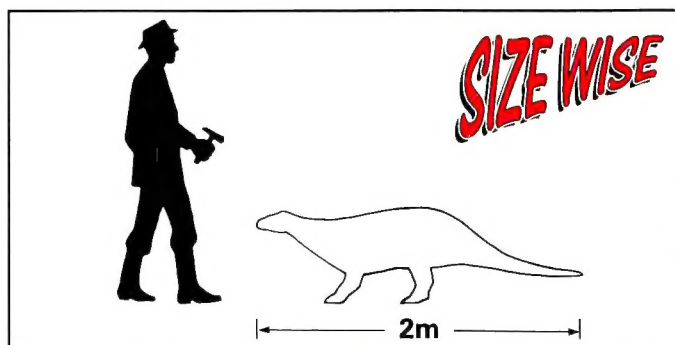
Only a small piece of *Minmi*'s back (with unusual linked vertebrae) and parts of its foot have been found, but scientists believe that it was about 2m long. This is quite small compared with other members of its family. *Minmi* was a nodosaurid (nodular reptile), from the family of ankylosaurs with bodies covered in bony plates.

ALL-ROUND PROTECTION

Minmi was a peaceful plant-eater. It was only about the height of an adult human's knee and so it browsed mainly on low-growing ferns and shrubs. Although it kept a look-out for predators, it was wonderfully well protected. Small bony plates creating a thick coat of armour covered its underside and its broad back. Even *Minmi*'s skull was protected by strong slabs of bone.

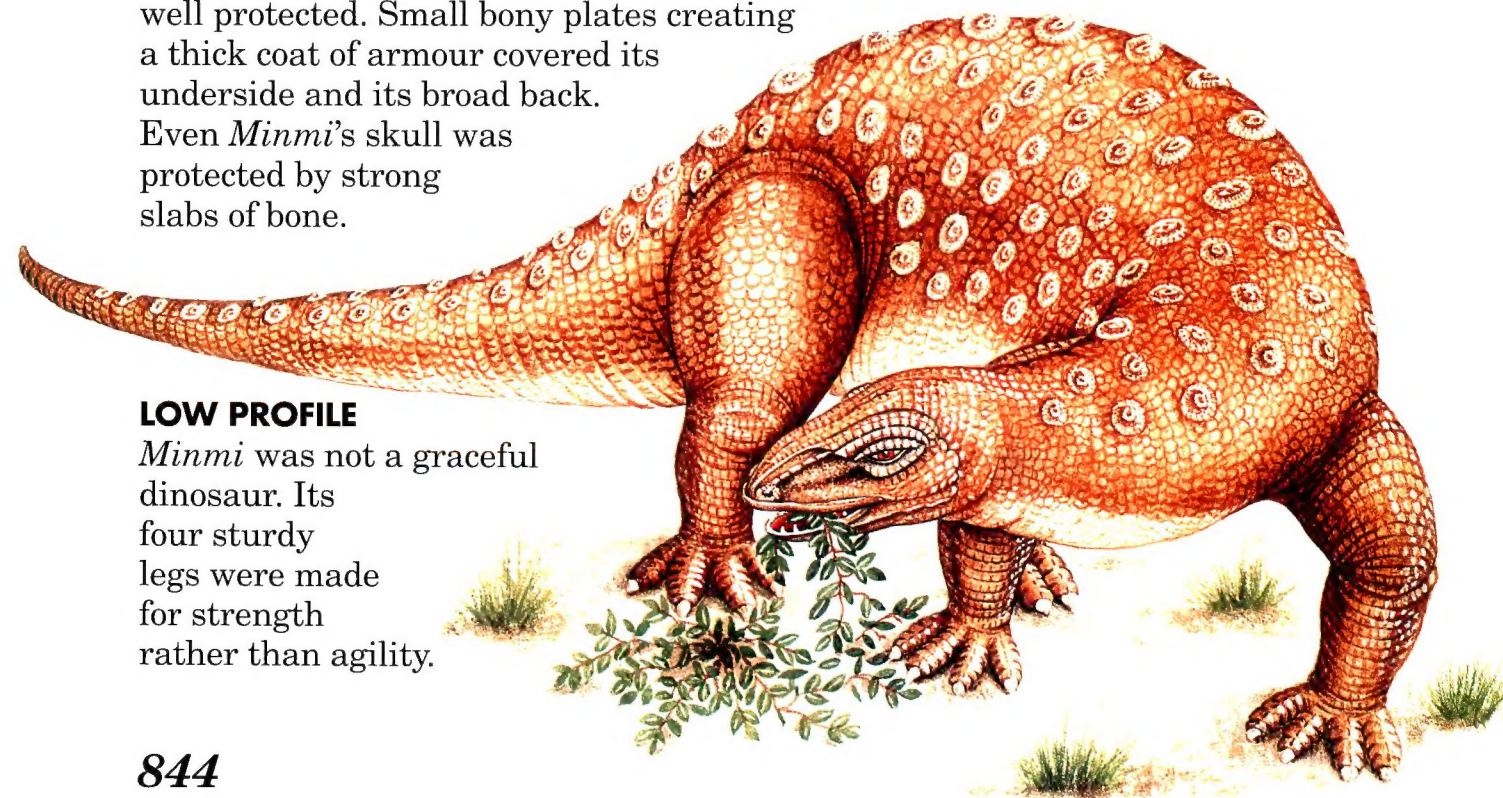
LOW PROFILE

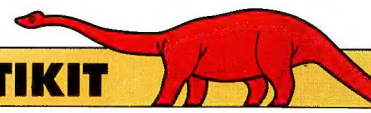
Minmi was not a graceful dinosaur. Its four sturdy legs were made for strength rather than agility.



MONSTER FACTS

- **NAME:** *Minmi* (min-mee) was named after Minmi Crossing in Queensland, Australia, where it was found
- **SIZE:** about 2m long
- **FOOD:** low-growing plants
- **LIVED:** about 130 million years ago in the Early Cretaceous Period in Australia





VULCANODON

Some strange teeth were found beside headless fossils of *Vulcanodon*.

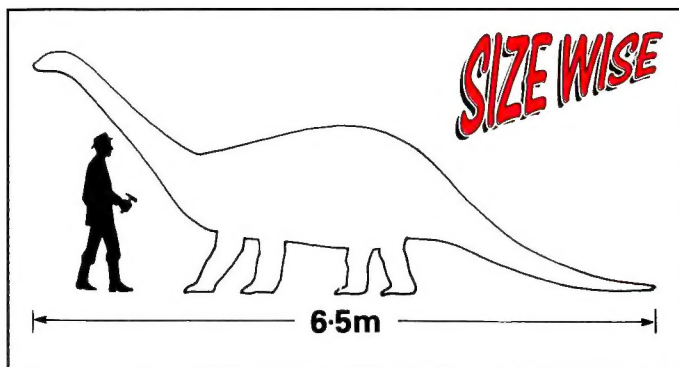


ulcanodon was named after the small, jagged-edged teeth discovered near its skeleton.

But in every way *Vulcanodon* appeared to be a plant-eater, so experts think these teeth belonged to the carnivore that ate it.

HIGH REACHING

Vulcanodon was as long as an elephant and walked on four heavy legs. It had a huge bulky body and a long neck and tail. If it wanted to reach branches above its small head, *Vulcanodon* probably tipped backwards on its hind legs.



MONSTER FACTS

- **NAME:** *Vulcanodon* (vul-kan-oh-don) means 'volcano tooth'
- **SIZE:** about 6.5m long
- **FOOD:** plants
- **LIVED:** about 185 million years ago in the Early Jurassic Period in Zimbabwe, Africa

SAFETY IN NUMBERS

The enormous size of a sauropod like *Vulcanodon* was enough to put off predators. But it may have travelled to new feeding places in herds to protect its young. The smallest dinosaurs were placed at the centre, flanked by the adults for added safety.

EARLY SAUROPOD

Vulcanodon is probably the earliest sauropod ever discovered but to be certain, scientists are still hunting for more clues.





Dinosaurs from North America 2

A rich variety of dinosaurs lived in North America during the Cretaceous.



North America was a great place for dinosaurs to live (and to die and be fossilized). It was cut off from Europe and Africa during the Cretaceous. At this time North American dinosaurs became specialised and less like their cousins from other parts of the world.

North American dinosaurs came in all shapes and sizes during the Cretaceous.

DINO PARADISE

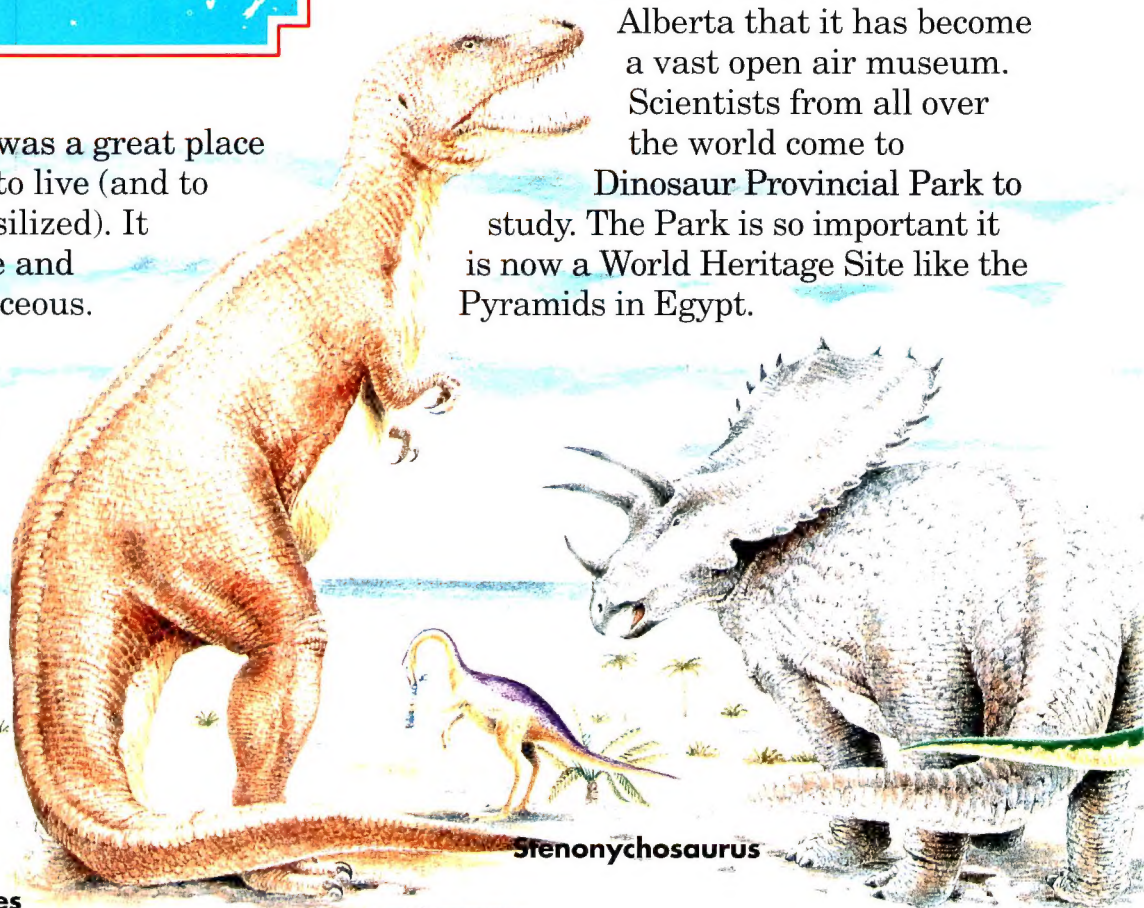
Alberta is in Canada. It was a beautiful subtropical paradise 75 million years ago. Exotic flowering plants grew among tangles of ferns, cycads, mosses and horsetails at the edges of great forests of conifers and broad-leaved trees. It was a perfect place for dinosaurs to live.

ALBERTA TODAY

Today, Alberta is still a beautiful place but parts are now a rugged, rocky plain, often covered with snow. It is one of the best places to find dinosaurs. They lived and died here in huge numbers during the Cretaceous. Their fossils even stick up out of the ground as the rock wears away.

DINOSAUR PARK

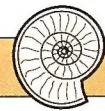
So many different kinds of dinosaurs have been found in one area of Alberta that it has become a vast open air museum. Scientists from all over the world come to Dinosaur Provincial Park to study. The Park is so important it is now a World Heritage Site like the Pyramids in Egypt.



Daspletosaurus

Stenonychosaurus

Pentaceratops



Perfect
dinosaur
hunting
country –
Dinosaur
Provincial
Park, Alberta,
Canada.

HUGE HUNTING GROUND

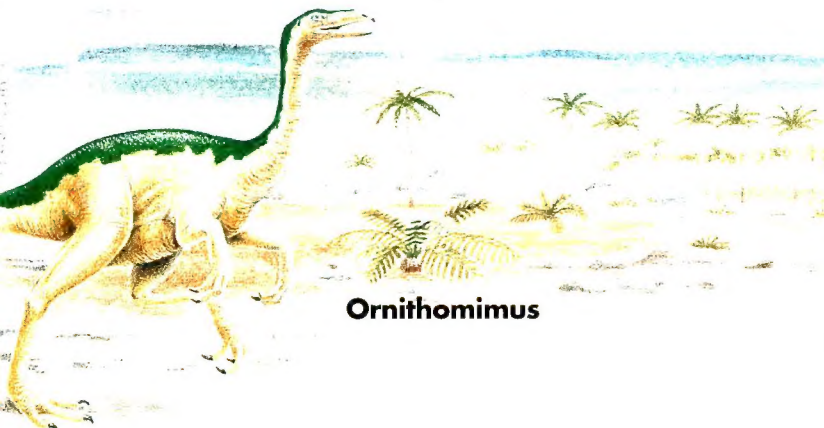
But other places in North America, including many sites in the USA, are rich dinosaur hunting grounds. Some of the most terrible meat-eaters ever strode across lush North America 70 MYA.

FRIGHTFUL FLESH-EATERS

They came in many sizes and hunted in different ways. The most fearsome was the great *T rex*. It also had some ferocious relatives. *Daspletosaurus* was 9m long. Almost everything about it was massive – the heavy head, jaws full of carving-knife teeth, tree-trunk legs, and a great, balancing tail. *Albertosaurus* lived at the same time and place. It was probably lighter in build and chased smaller prey.

TINY BUT TERRIBLE

North America had tiny terrors that were just as ferocious as their giant cousins. *Stenonychosaurus* was 2m long, and stood only about 1m tall.



Ornithomimus

BIG BRAIN

The small shrew-like mammals and insects of the time must have seen *Stenonychosaurus* as a ghastly giant. Some scientists believe that it is the same dinosaur as *Troodon*. It had one of the largest brains, compared with its body size, of all dinosaurs, and used its big, forward-facing eyes to see small animals.

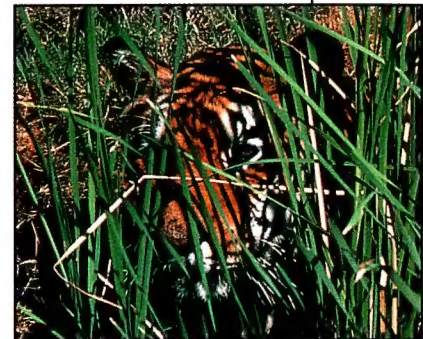
FAST FOOD

North America also had its share of ostrich dinosaurs. They were tall, slim and two-legged, like today's ostrich. They included *Ornithomimus*, *Dromiceiomimus* and *Struthiomimus*. These dinosaurs were between 3 and 4m long (slightly taller than a man), and very lightly built, so they could move at speed. They probably lived on eggs, insects, amphibians, lizards, and anything else they could snap up with their toothless beaks.

*Is it
true*

that *Tyrannosaurus*
hunted like a tiger?

Dinosaurs such as *Tyrannosaurus* and *Albertosaurus* were so big and heavy that it is difficult to think of them as fast-moving hunters. Some scientists thought they plodded around slowly, scavenging for dead prey that could not run away. But fossil footprints show that these dinosaurs may have run at between 30 and 40km/h. Perhaps they lurked until their prey came near, then dashed at it, driving their dreadful teeth into the flesh. Today's tiger hunts in the same way. It lurks, well disguised in the undergrowth, creeps slowly nearer, and then rushes out at its prey. This method of hunting is called 'stalk-and-charge' hunting.





DINOSAUR DEFENCE

The lush subtropical forests of Cretaceous North America were marvellous places for plant-eaters. But they lived in fear of being slashed, bitten and eaten by the teeth and claws of the meat-eaters. So they developed all sorts of armour and weapons.

DESIGNER HORNS

The ceratopians or horned dinosaurs lived only in North America. They evolved spectacular designs for horns to jab at the enemy, and neck frills for protection.

FIVE HORNS

Pentaceratops or 'five horn face' had a horn on its nose and one over each eye. The fourth and fifth horns were actually pointed cheek bones. The long neck frill was used for defence and display. Ceratopians probably lived in groups to defend themselves. Whatever their lifestyle, it worked well. They were very successful dinosaurs.

BUMPS, LUMPS AND SPIKES

Some North American dinosaurs developed an armour of hard plates, lumps and spikes. These were the nodosaurs including *Nodosaurus* and *Silvisaurus*. The ankylosaurs also had heavy armour. *Ankylosaurus* grew bony knobs all over its head and body, and had a large tail club.

IT'S A FACT

NORTH AMERICA TEEMED WITH DUCKBILLS

North America was home to many duckbills. They included *Prosaurolophus*, *Saurolophus*, *Parasaurolophus*, *Corythosaurus*, *Hypacrosaurus*, *Lambeosaurus*, *Procheneosaurus*, *Edmontosaurus* and *Kritosaurus*. Evidence suggests they lived in large herds like today's zebra. Perhaps the landscape of North America was dotted with huge herds of duckbills.

EASY MEAT?

The duckbills were plentiful in North America towards the end of the Cretaceous. So they must have successfully avoided the meat-eaters – but scientists are not sure how.

BUMPY NOSTRILS

Kritosaurus was about 9m long. It had large nostril openings rising to a bump in front of each eye. The hadrosaurs or duckbills may have used their noses to make bellowing and trumpeting noises, just as an elephant does with its trunk.



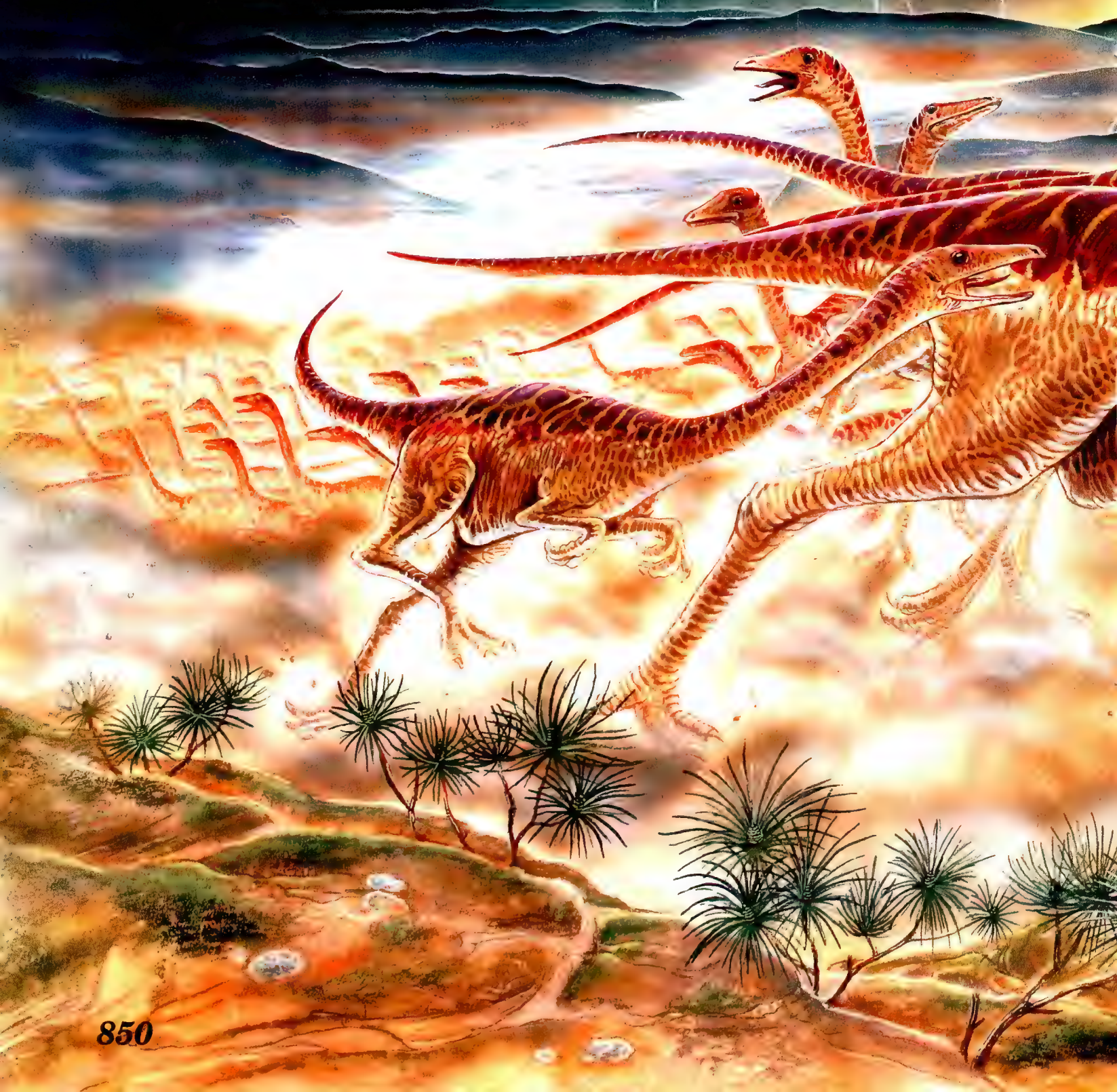


NOISY CRESTS

Some hadrosaurs developed strange crests and horns on their heads. They were probably sound-tubes to make the noises louder. Imagine creeping up on one of these big dinosaurs, and suddenly hearing a loud noise like an enormous foghorn! Loud sounds may have frightened away predators. The hadrosaurs lived towards the end of the Cretaceous. As it came to a close, the North American dinosaurs died out, like dinosaurs all around the world.

A tyrannosaur's shadow looms through the North American dusk. Two *Kritosaurus* are in very grave danger.

GIANTS OF THE PAST



ARCHAEORNITHOMIMUS

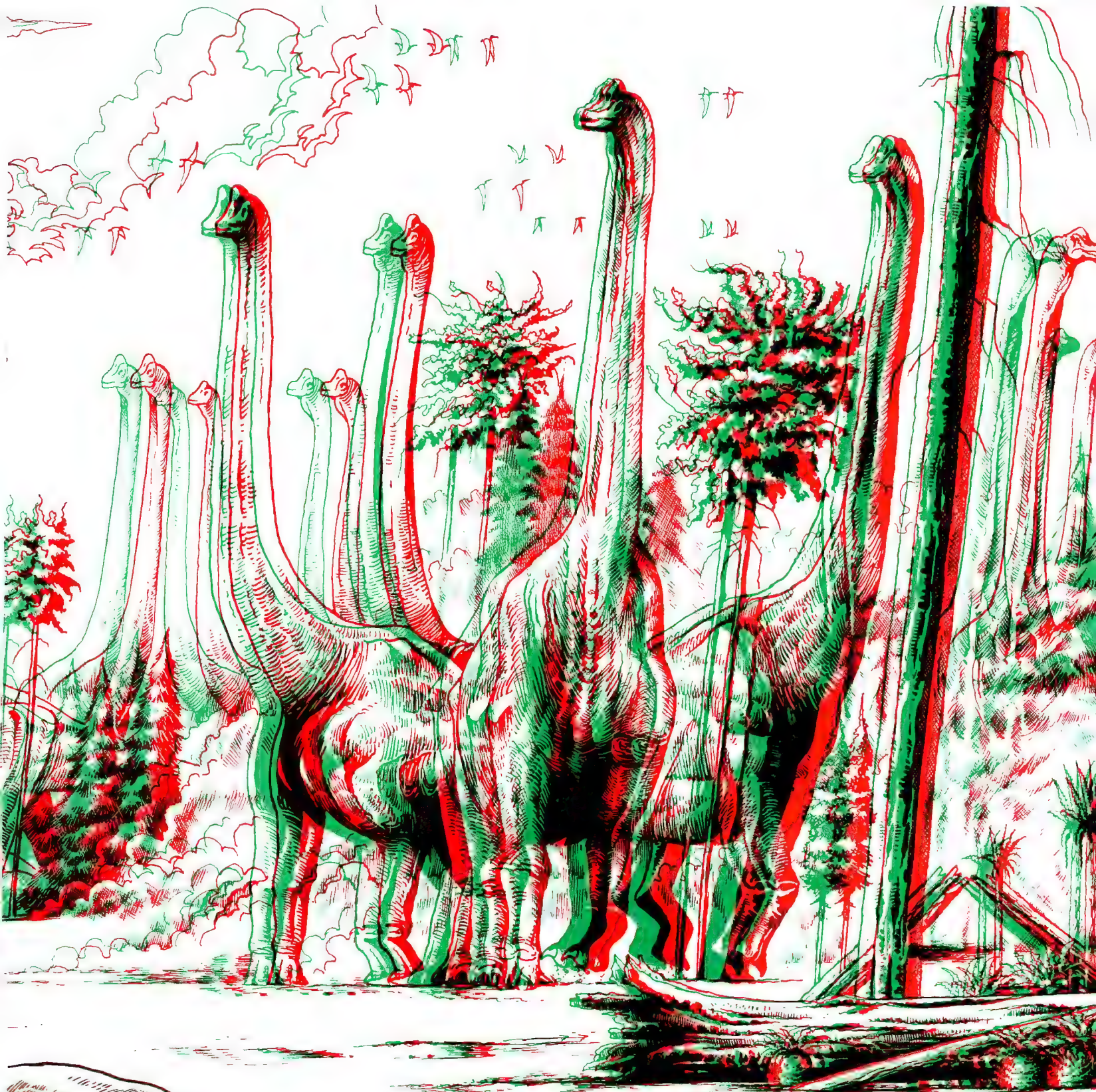


On a north China plain a spectacular storm sends a surge of panic and confusion through a huge herd of *Archaeornithomimus*. No shelter is in sight. Will the lightning strike them? Will the leaders lose their herd? It's likely that their beady eyesight and their long slender legs will help most of them to make a speedy getaway and find shelter until the storm passes.

45 3-D Gallery

BRACHIOSAURUS & ALLOSAURUS





A herd of *Brachiosaurus* disturbs a group of *Allosaurus* relaxing next to a swamp. If they are hungry the carnivores will attack. But they must take care, a terrified herd of sauropods could stampede and crush the predators underfoot.

INSIDE A DINOSAUR

Stomachs

Have you ever wondered what the inside of a dinosaur's stomach looked like?

Dinosaurs' stomachs varied according to their different lifestyles and eating habits.

In general, there was more activity in the larger plant-eaters' stomachs than in those of the meat-eaters. This is because digesting tough vegetation is a more complicated business than digesting meat.

JUICES IN THE MOUTH

For many dinosaurs digestion started in the mouth, with chewing. This happens in humans too. The teeth grind food down into a pulp and then special digestive juices in the mouth act on the food, making it easier for the stomach to digest.

DOWN THE HATCH

When giant *Brachiosaurus* (below) swallowed, its food travelled down its oesophagus, which was a long tube running from the mouth as far as the stomach. Muscles in the oesophagus squeezed the food along its way, rather like toothpaste in a tube.

INTO A SOUP

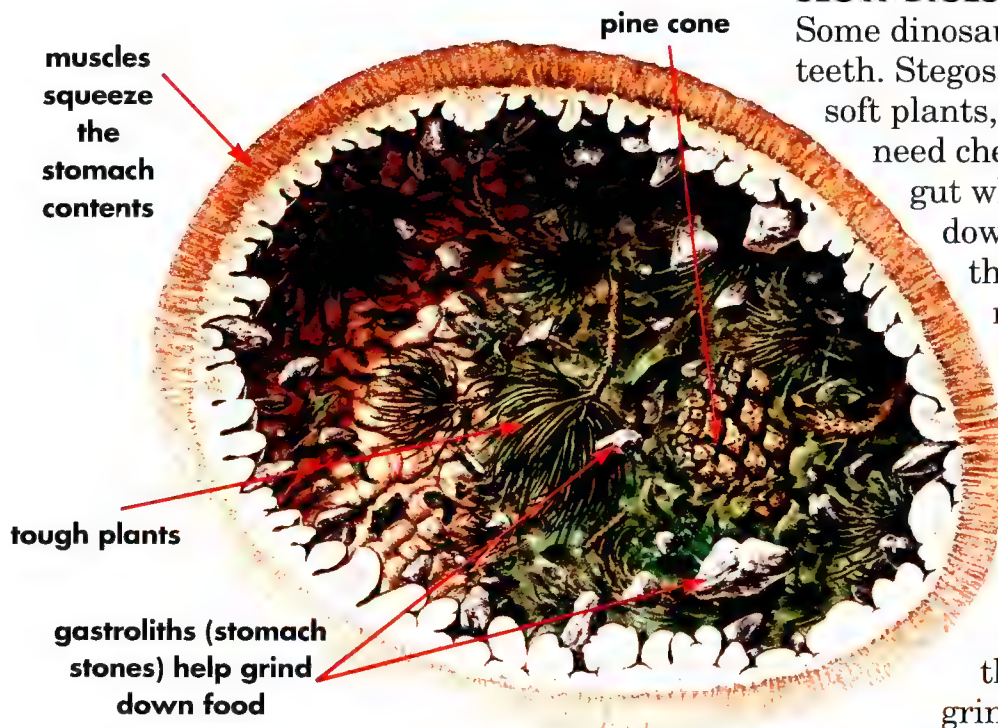
By the time food reached the stomach it was already half digested by the juices. Here it was squashed into a soup by the squirming movements of the muscles. It then passed into the intestines from where the goodness from the food was absorbed into the body.

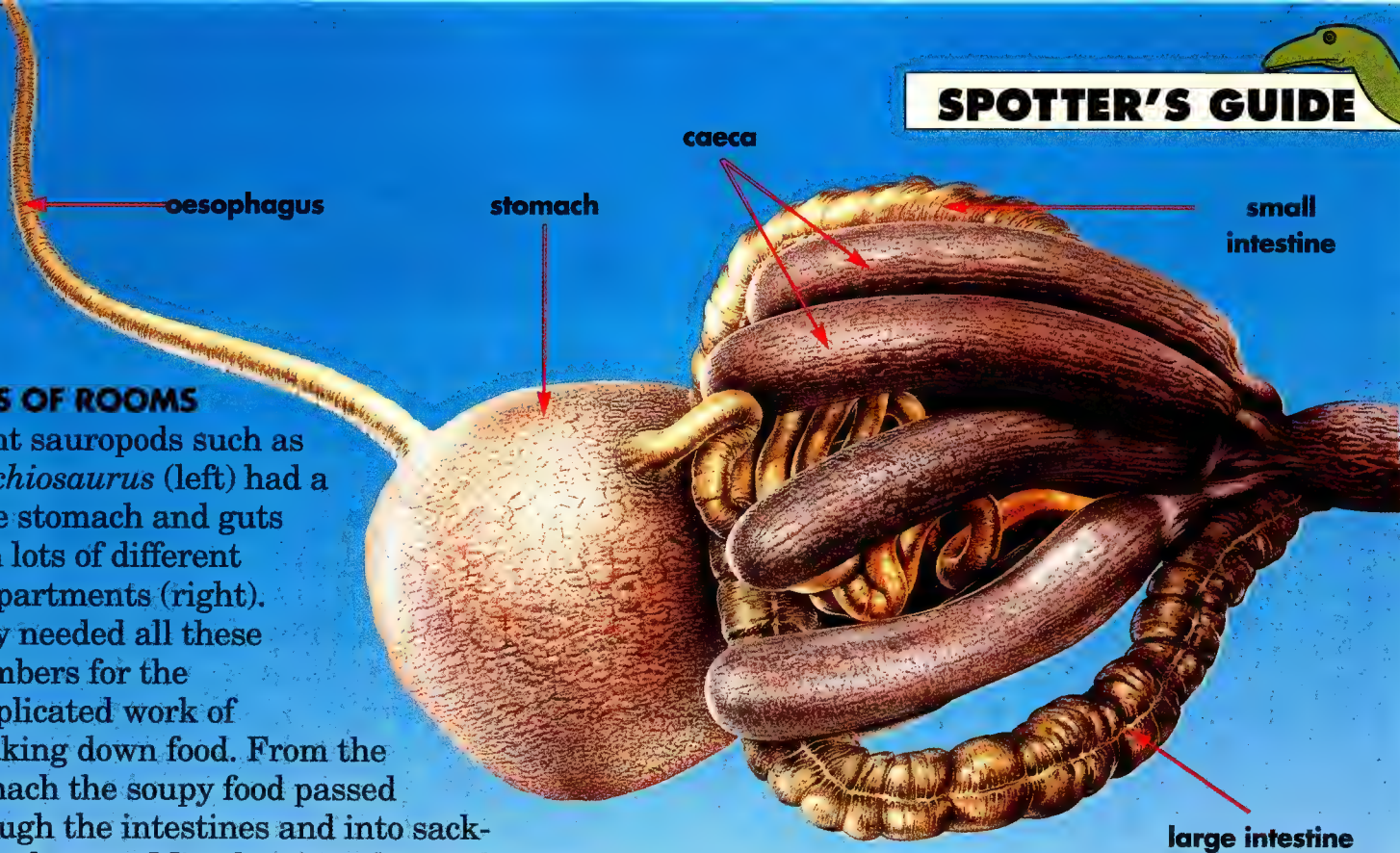
SLOW DIGESTION

Some dinosaurs did not have grinding teeth. Stegosaurs and ankylosaurs fed on soft plants, picking out bits which did not need chewing. They had a very large gut where food was slowly broken down. They were less active than the giant sauropods so they did not need to digest food as fast.

STRANGE SNACKS

Some sauropods were able to eat things like pine cones whole because they swallowed gastroliths (stomach stones). As the muscles churned the food in the stomach, the stones helped grind it down into a pulp.





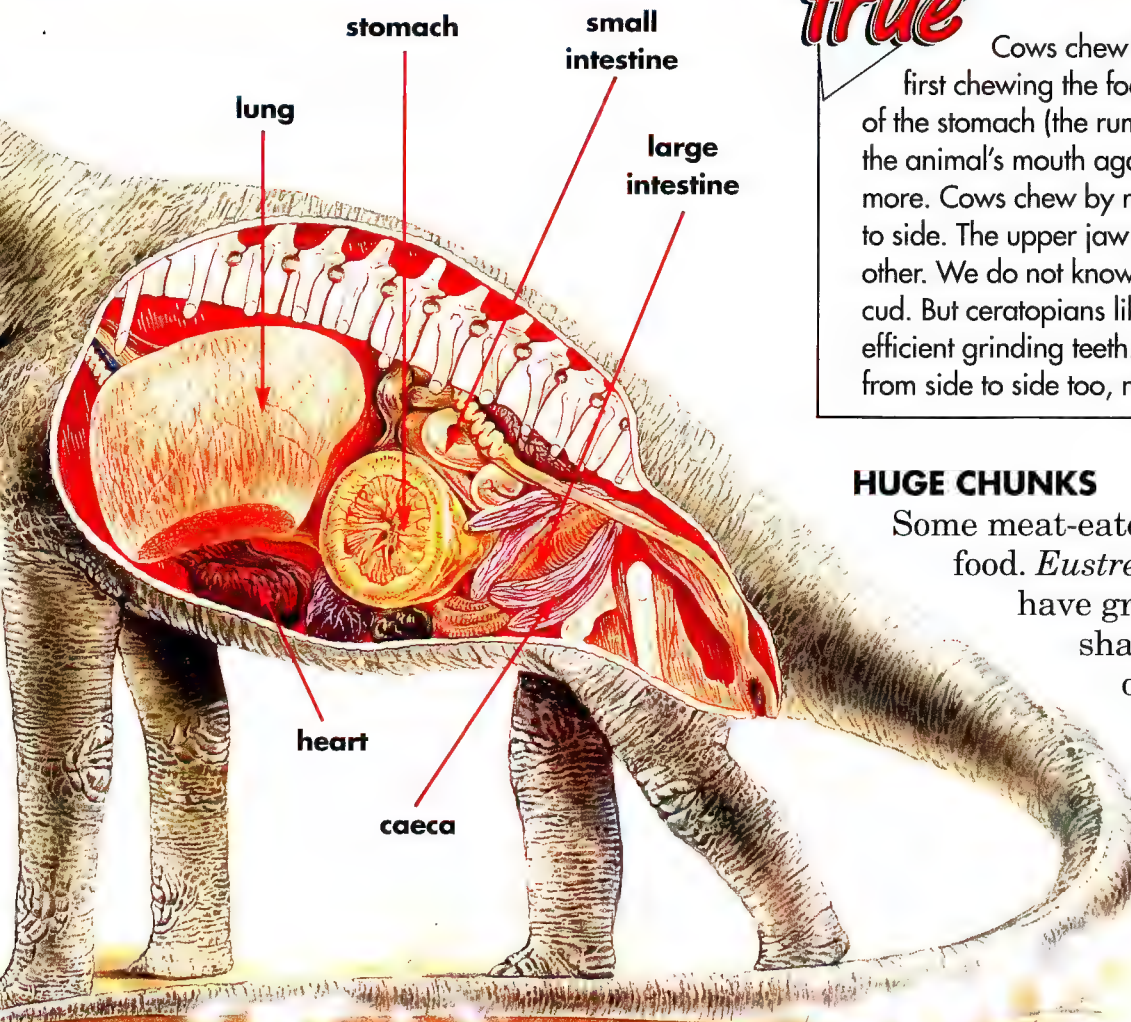
LOTS OF ROOMS

Giant sauropods such as *Brachiosaurus* (left) had a huge stomach and guts with lots of different compartments (right). They needed all these chambers for the complicated work of breaking down food. From the stomach the soupy food passed through the intestines and into sack-shaped caeca. Microbes (tiny living things) in the caeca broke the food down further.

Is it true

that dinosaurs chewed the cud, like cows?

Cows chew their food twice. After the first chewing the food is digested in the first part of the stomach (the rumen). It is then brought up to the animal's mouth again to be chewed some more. Cows chew by moving their jaws from side to side. The upper jaw goes one way, the lower the other. We do not know if dinosaurs chewed the cud. But ceratopians like *Triceratops* had very efficient grinding teeth. They probably chewed from side to side too, rather like cows.



HUGE CHUNKS

Some meat-eaters did not chew their food. *Eustreptospondylus* did not have grinding teeth. Its razor-sharp teeth cut off chunks of flesh from its prey. It then swallowed the huge pieces whole. It could do this because meat was easier to digest than plants.

Naming a dinosaur

Was it huge? Was it fierce? Who found it first? Dinosaur names often reveal important facts about them.

Dinosaur names are chosen carefully. When a new species of dinosaur is discovered it must have a new name. This shows that it is a different animal from those already known to science.

LATIN OR GREEK

Dinosaurs are given scientific names made up of Greek or Latin words. These names are used by scientists all over the world, so everyone knows exactly which dinosaur is being discussed.

PRAISE FOR THE PATRON

Huge sums of money have been spent on digging up dinosaurs. The millionaire Andrew Carnegie spent 25 million dollars on large fossil collecting trips in North America between 1895 and 1905. One of his collectors found a giant *Apatosaurus*. It was named *Apatosaurus louisae* after Carnegie's wife. When a skeleton of *Diplodocus* was found, it was named after Andrew Carnegie. It was the best example of a *Diplodocus* ever discovered.

CONGRATULATING THE COLLECTOR

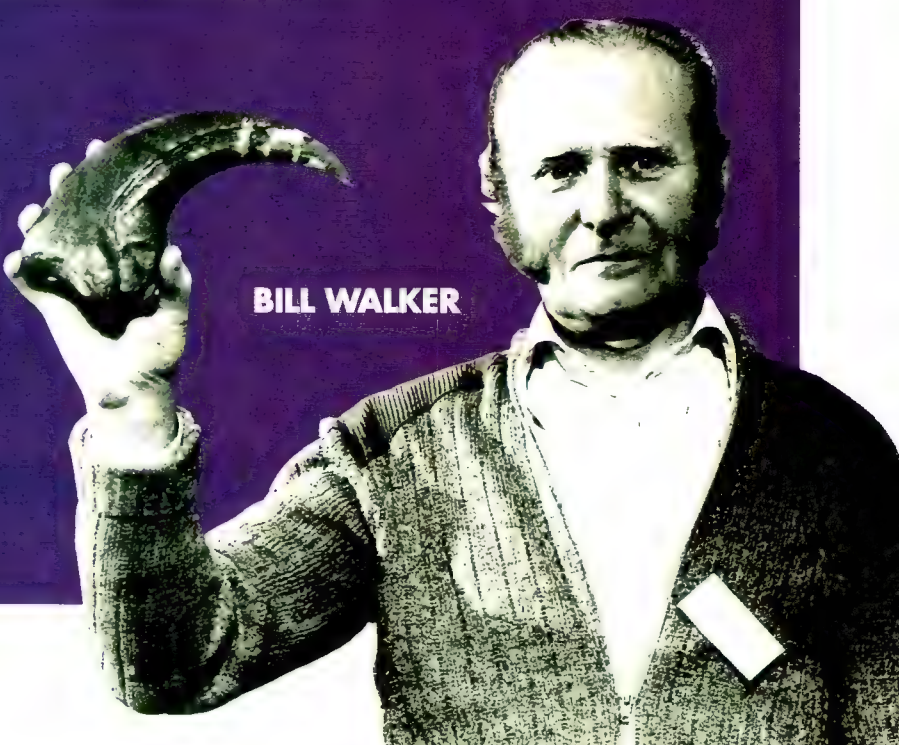
Some dinosaurs are named after the person who discovered them. Bill Walker is the British amateur fossil hunter who found *Baryonyx walkeri*.



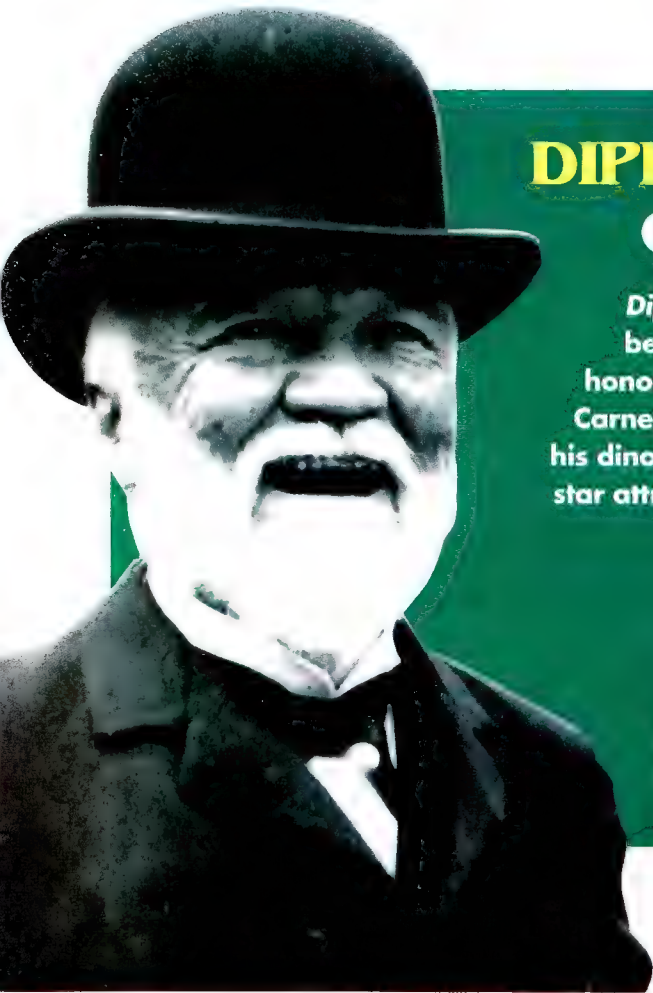
BARYONYX

BARYONYX WALKERI

Baryonyx means 'heavy claw'. The second part of the name, *walkeri*, is in honour of Bill Walker who found this dinosaur with the huge claws.



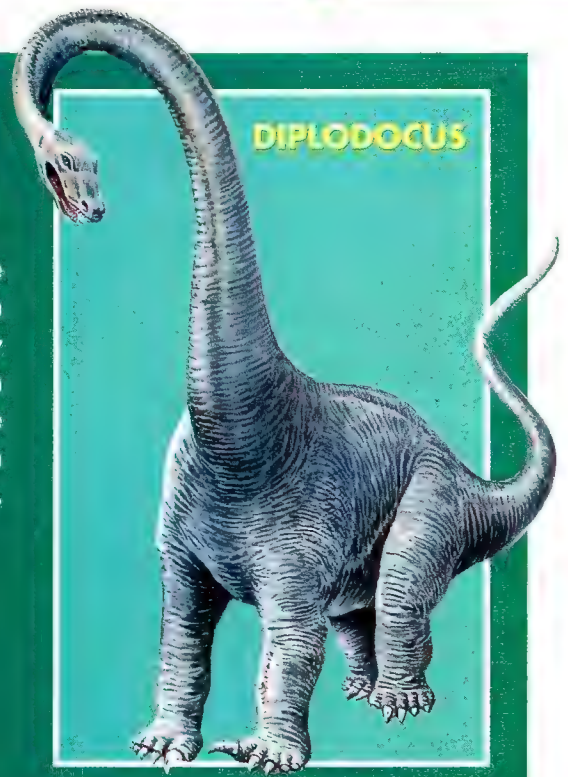
BILL WALKER



DIPLODOCUS CARNEGII

Diplodocus means 'double beam'. *Carnegii* means 'in honour of Carnegie'. Andrew Carnegie was so pleased with his dinosaur that he made it the star attraction of his museum in Pittsburgh, USA.

ANDREW
CARNEGIE



APATOSAURUS LOUISAE

This dinosaur's name means 'deceptive reptile' (in honour of) Louise'. Louise was Andrew Carnegie's wife.

LOUISE
CARNEGIE

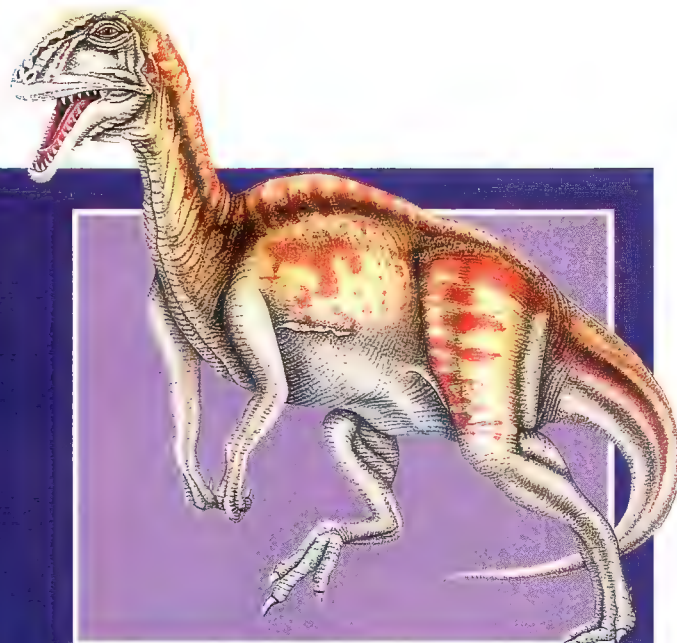




YANGCHUANOSAURUS

'Yangchuan lizard'

Yangchuanosaurus was named after the place where it was found – Yangchuan, in China.



LAGOSUCHUS

'Rabbit crocodile'

Not much like a crocodile, even less like a rabbit; scientists must sometimes find it hard to invent appropriate names for new dinosaur discoveries.

RABBIT



HOT SPOTS

Some dinosaurs, like *Yangchuanosaurus*, are called after the places where they were found. When several *Iguanodon* were found deep in a coal mine in Bernissart, Belgium, some were named *Iguanodon bernissartensis* in honour of the village.

LOOK ALIKES

Many dinosaurs are named after modern animals they look like. Sometimes it's easy to see why they are given their names, like iguana in *Iguanodon*. But *Dromiceiomimus*' name means 'emu mimic'. It ran fast and had a long neck like an emu.

NOT-SO-ALIKES

Sometimes dinosaurs have very little in common with the modern animals they are named after. *Lagosuchus*' name means rabbit crocodile. It was given its name because scientists thought it had a crocodile-like head. They also thought its legs looked rather like those of a rabbit. But *Lagosuchus* does not look much like a rabbit at all.

Psittacosaurus, or parrot lizard, was given its name because it had a beak like a parrot. But otherwise the dinosaur looked very different from its modern feathered namesake.



CORYTHOSAURUS 'Helmet lizard'

It is easy
to see why
scientists named
Corythosaurus after
the shape of
its head.

FIREMAN IN HELMET



TOP TO TOE

Odd-looking dinosaurs are often described by their names. *Corythosaurus* means 'helmet lizard'. It gets its name from the extraordinary bony crest on its head. Some dinosaurs are only known from bits of their bodies. But scientists still give them a name. One giant is known only from its powerful arms. They end in claws which are so sharp and curved, the dinosaur was named *Therizinosaurus* which means 'scythe lizard'.

IT'S A FACT

RECORD BREAKER

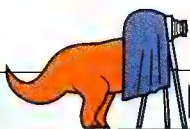
Megalosaurus was the first dinosaur to be named. It was discovered in 1824 in a quarry in Oxfordshire. Its name means 'great lizard'. William Buckland, a professor of geology, named it *Megalosaurus*. But *bucklandii* was added in 1926 to honour William Buckland.

CARNOTAURUS 'Meat-eating bull'



BULL

Bull head to bull head -
experts who named the
ferocious meat-eater
Carnotaurus were struck by
how bull-like its head was.



MIGNON TALBOT

MIGNON TALBOT WAS BORN IN AMERICA TOWARDS THE END OF THE NINETEENTH CENTURY. SHE HAD A CLEAR IDEA OF WHAT SHE WANTED TO DO WITH HER LIFE.

GIRLS DO NOT GO TO UNIVERSITY!

DO LISTEN TO YOUR PAPA, MIGNON.

I DON'T CARE WHAT OTHER GIRLS DO, IT'S MY LIFE!

DESPITE HER FATHER'S DOUBTS MIGNON DID MAKE A CAREER FOR HERSELF, AS A PALAEOLOGIST. SHE WAS MADE PROFESSOR OF GEOLOGY AT MOUNT HOLYOKE COLLEGE IN MASSACHUSETTS, IN EASTERN AMERICA. THE COLLEGE LAY IN THE CONNECTICUT VALLEY, FAMOUS FOR BEING RICH IN FOSSIL REMAINS.

I WISH I COULD DISCOVER A DINOSAUR HERE, EVEN A FRACTION AS FAMOUS AS PROFESSOR MARSH'S ANCHISAURUS.

MIGNON WAS NOT CONTENT TO SPEND ALL HER TIME IN LABORATORIES OR COLLEGE LECTURE HALLS. SHE WAS AN ENTHUSIASTIC FIELD WORKER TOO.

... ONE DAY IN 1911, DURING A DIG NEAR MOUNT HOLYOKE COLLEGE...

IT CAN'T BE! BUT I BELIEVE IT IS...

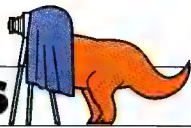
THE FOSSIL SKELETON WAS CAREFULLY REMOVED FROM ITS STONE TOMB AND TAKEN TO MIGNON'S COLLEGE.

THE BONES ARE HOLLOW. IT MUST HAVE BEEN A VERY LIGHT AND DELICATE LITTLE THING!

MIGNON'S DINOSAUR WAS IDENTIFIED AS A NEW MEMBER OF A FAMILY OF PREDATORY DINOSAURS CALLED COELOPHYSIDS. JUST AS SHE HAD THOUGHT, IT WAS A SMALL NIMBLE CREATURE, LESS THAN 1m LONG. AS A TRIBUTE TO HER COLLEGE, MIGNON NAMED HER DISCOVERY *PODOKESAURUS HOLYOKENSIS*.

WHERE'S IT GOING?

WELL, THIS PLASTER CAST IS GOING ON DISPLAY IN THE YALE MUSEUM.



MIGNON WAS A DETERMINED YOUNG LADY.



MIGNON GOT HER OWN WAY AND SOON SHE WENT TO UNIVERSITY TO STUDY SCIENCE.

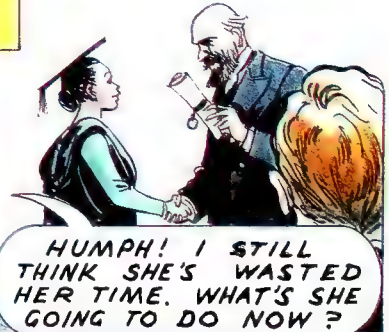


MIGNON WAS AN EXCELLENT STUDENT AND WENT ON TO BE AWARDED A SCIENCE DEGREE.

I'M SO PROUD OF MIGNON, DARLING.



LIKE IT OR NOT, PAPA, I AM GOING TO UNIVERSITY.



HUMPH! I STILL THINK SHE'S WASTED HER TIME. WHAT'S SHE GOING TO DO NOW?

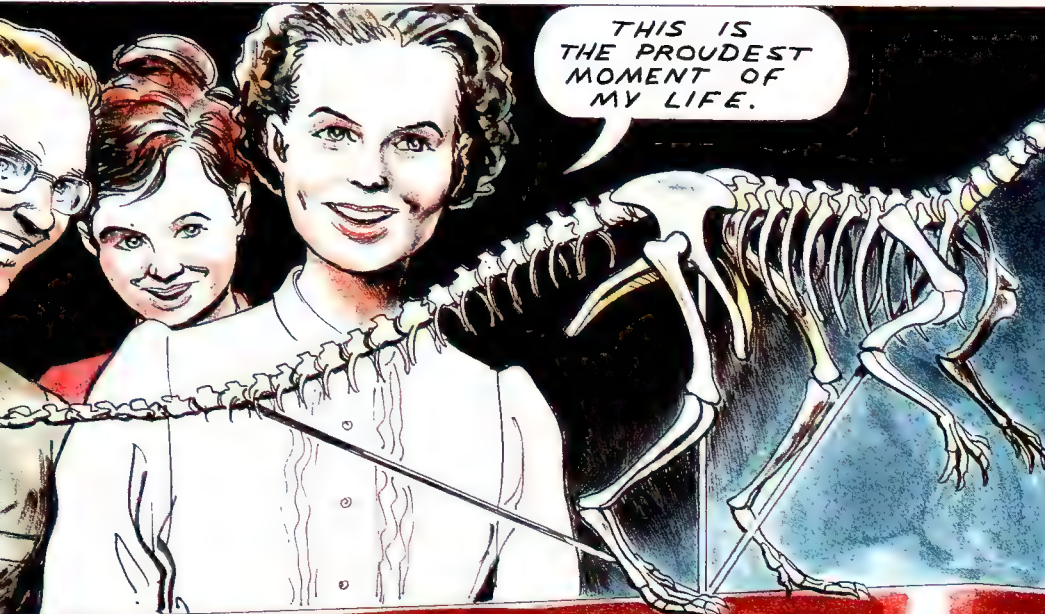


I JUST DON'T BELIEVE IT! DESPITE ALL THE FOSSIL FOOTPRINTS IN THIS VALLEY, ONLY THE REMAINS OF FOUR SPECIES HAVE EVER BEEN FOUND HERE. THERE MUST BE MORE!

DURING THE TRIASSIC, A SMALL DINOSAUR HAD DIED IN THE CONNECTICUT VALLEY AND BECAME FOSSILIZED UNDER MANY LAYERS OF ROCK. THERE IT REMAINED UNTIL EVENTUALLY IT WAS FORCED BACK UP TO THE SURFACE, WHERE...



THIS IS THE PROUDEST MOMENT OF MY LIFE.



THE CAST OF *PODOKESAURUS HOLYOKENSIS* WAS SOON SET UP IN THE FAMOUS YALE MUSEUM. IT REMAINS THERE TODAY, A PERMANENT REMINDER THAT THE LAST, TO DATE, SPECIES OF DINOSAUR TO BE UNEARTHED IN THE CONNECTICUT VALLEY, WAS FOUND BY THE PIONEERING FEMALE PALAEOANTOLOGIST DR. MIGNON TALBOT.

Improve and test your knowledge with... **Fact** **DINOFile**

Triceratops holds all the answers. See how you score in the quiz.

Huge names

It's easy to work out the size of these sauropod dinosaurs by the first part of their names: *Titanosaurus*, *Supersaurus*, *Seismosaurus*, *Massospondylus*, *Gigantosaurus*. No need to tell you these dinosaurs were **HUGE!**

Tracking clues

Just by looking at dinosaur footprints, scientists can usually work out if they belonged to a meat-eater or plant-eater. Meat-eating dinosaurs had three-toe prints with pointed clawmarks. Plant-eating dinosaurs left rounded prints rather like those of an elephant.

1

Minmi was the first armoured dinosaur to be discovered in:

- a) America
- b) Australia
- c) Africa

2

What did Mignon Talbot discover?

- a) a pterosaur
- b) a dinosaur
- c) a plesiosaur

3

What unusual objects have experts found in dinosaurs' stomachs?

- a) coins
- b) rocks
- c) marbles

4

Pelorosaurus was as long as:

- a) a bike
- b) a car
- c) a train carriage

5

What is the name of the dinosaur park in Alberta, Canada?

- a) Dino Disney
- b) Jurassic Park
- c) Dinosaur Provincial Park

6

During the Cretaceous, Alberta, Canada was:

- a) a subtropical paradise
- b) a dry desert
- c) snowy mountain ranges

7

What did *Pelorosaurus* eat?

- a) meat
- b) plants
- c) eggs

8

Corythosaurus means:

- a) fireman
- b) heavy claw
- c) helmet lizard

9

Vulcanodon was:

- a) a theropod
- b) a sauropod
- c) a stegosaur

10

Which animal did *Archaeornithomimus* look like?

- a) a seagull
- b) a chicken
- c) an ostrich



Deadly sandstorms

The skeletons of five baby *Pinacosaurus* were found huddled together in fossilized sand dunes. Scientists believe that they were probably sheltering from a sandstorm that buried them 80 million years ago.

Long and strong

Omeisaurus had 17 neck bones

which had thin walls and large holes in them. The neck was light but very, very strong. It had to be - its neck was 5m long!

Dinosaur hopscotch

When French scientists came across a fossil trackway on the bed of a Jurassic swamp, they thought that it belonged to a hopping dinosaur. The trackway, called *Saltosauripus*, is now believed to have belonged to a prehistoric turtle!

A to Z

OF DINOSAURS

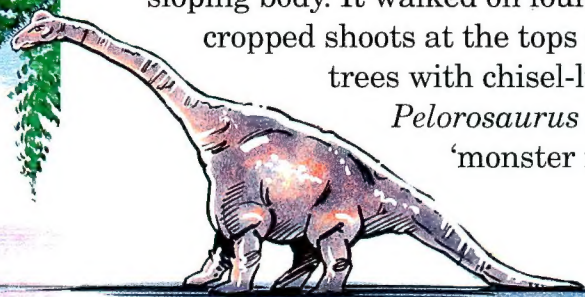
PE - PI

PELOROSAURUS

145 MYA

Longer than a train carriage, gigantic *Pelorosaurus* (pel-o-ro-e-saw-rus) lived in southern England during the Late Jurassic Period. It was found in the quarries where *Iguanodon* was discovered. *Pelorosaurus* was shaped like a giraffe, with a long neck and sloping body. It walked on four legs and cropped shoots at the tops of tall trees with chisel-like teeth.

Pelorosaurus means 'monster reptile'.



PIATNITZKYSAURUS

160 MYA

A carnosaur from northern Argentina, *Piatnitzkysaurus* (pee-at-nits-kee-saw-rus) was very similar to fearsome *Allosaurus*. It had long pointed teeth set in deep jaws which it used to tear the flesh of its prey. *Piatnitzkysaurus* walked on two legs and was as long as a car. It was named after a fossil collector called Piatnitzky.



PENTACERATOPS

75 MYA

Pentaceratops (pen-ta-ser-a-tops) was a spectacular horned dinosaur with three horns, one above each eye and one at the bottom of its long neck frill. Two long cheek spikes made up the other horns. Plant-eating *Pentaceratops* used its horns for defence against predators. All its fossils have been found in the San Juan basin of New Mexico. Its name means 'five-horned face'.

PHYLLODON

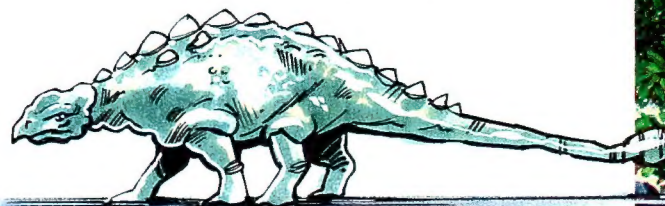
150 MYA

Tiny *Phyllodon* (fill-o-don) was less than a metre long. It lived in central Portugal in the Late Jurassic Period. *Phyllodon* means 'leaf-tooth'. This dinosaur was probably able to run quite fast on its two long legs. It had a long stiff tail which helped it to keep its balance as it sprinted. *Phyllodon* had strong jaws, rows of teeth in its cheeks and a horny beak for nipping off shoots.

PINACOSAURUS

80 MYA

Pinacosaurus (pin-ak-oh-saw-rus) was a heavily armoured dinosaur from Mongolia. Its name means 'plank reptile'. Besides the protection of a shield of bony spines, it had an extremely strong skull and a tail club as heavy as a boulder of rock which could easily cripple an attacker. As long as a Nile crocodile, *Pinacosaurus* walked on four strong legs. It had a parrot-like toothless beak and teeth set far back in its jaw. Its teeth weren't strong enough to chew tough shoots so it browsed among soft plants.

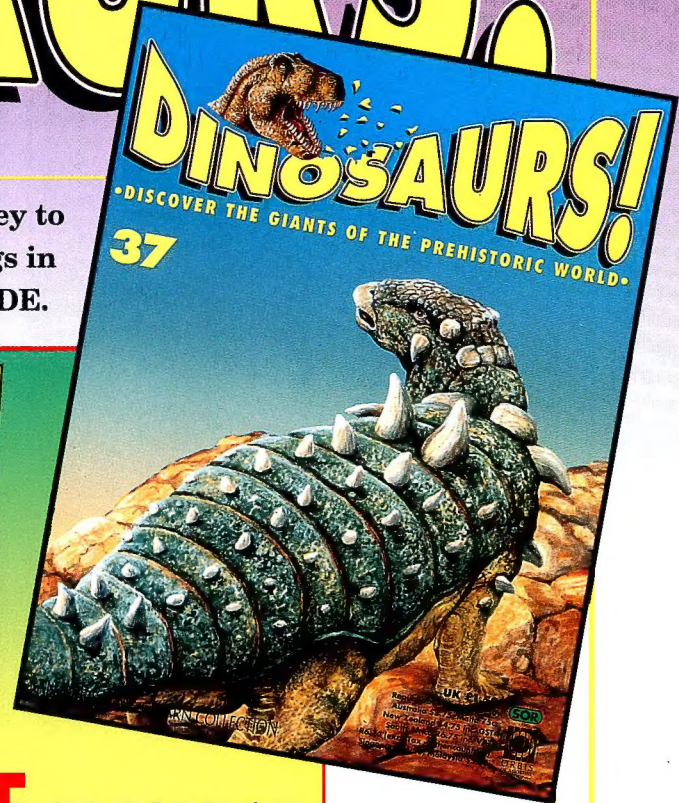
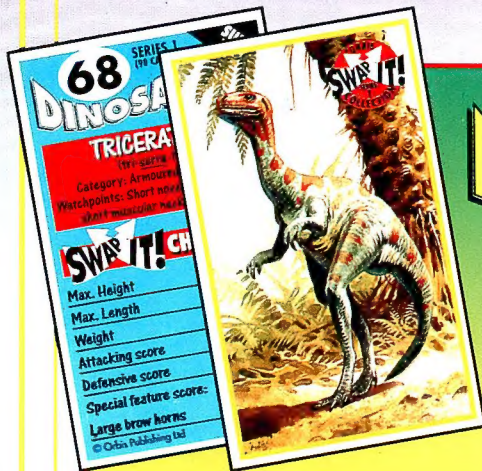


MYA = MILLION YEARS AGO

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ANSWERS TO DINO FACT FILE QUESTIONS: 1.b 2.b 3.b 4.c 5.c 6.a 7.b 8.c 9.b 10.c



Dr. David Norman of Cambridge University answers your dinosaur questions

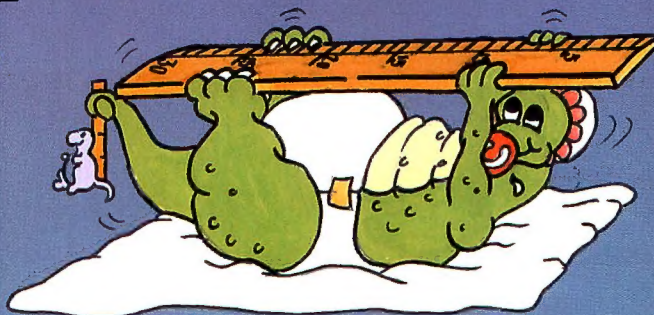
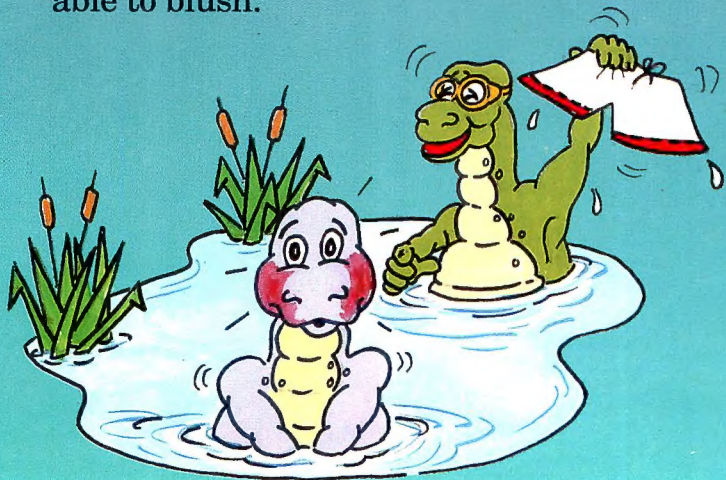
ASK THE EXPERT

How big were baby dinosaurs?

Animals today have different sized babies and the same was probably true for dinosaurs. Those babies found belong mostly to duckbilled and horned dinosaurs. When these first hatched, they could have sat quite easily on a man's hand. However they would have grown much larger very quickly. Rare baby sauropod dinosaurs may have been the largest; one found was 40cm long.

Did dinosaurs blush?

Some dinosaurs could change colour just like chameleons and many other lizards do today. The change in colour could be for camouflage, or may show that the lizard is angry, frightened or excited. It's likely that some dinosaurs could have changed colour in the same way and therefore would have been able to blush.



Why do so many dinosaur names end in 'saurus'?

'Saurus' comes from the Greek word *sauros* – meaning lizard. At first

scientists thought dinosaurs were related to lizards. If 'saurus' was put on the end of a dinosaur's name all scientists of the time recognised it as some sort of lizard. This is because Greek is an international scientific language.

Did T rex roar like a lion?

This is a very difficult question. Dinosaurs had ears and could hear well. Some of the dinosaurs that lived during the Late Cretaceous, including tyrannosaurs also made sounds, and these being very large could have made a deep roar.



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